

REMARKS

Favorable consideration of this application, as presently amended, is respectfully requested.

The present Preliminary Amendment is submitted to place the above-identified application in more proper format under United States practice.

By the present Preliminary Amendment the Summary of the Invention section is amended to no longer recite any reference numerals. The specification is also amended to correct a minor informality in Equation (2) on page 5 and to clarify at page 12, line 7, that the spacer 7 is not required to be in cylindrical shape but that the cylindrical shape is "an example" of the shape of the spacer 7.

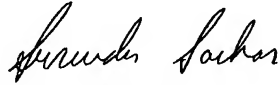
Original Claims 1-5 are canceled and new Claims 6-12 are presented for examination. New Claims 6-12 are deemed to be self-evident from the original disclosure, and thus are not deemed to raise any issues of new matter. New Claims 6-12 are not believed to be more narrow in scope than original Claims 1-5 in any aspect.

A new Abstract believed to be in more proper format under United States practice is also submitted herein.

The present application is believed to be in condition for a full and thorough examination on the merits. An early and favorable consideration of the present application is hereby respectfully requested.

Respectfully submitted,

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IN THE SPECIFICATION

Page 1, in the section title at line 1, please replace as follows:

[DESCRIPTIN] TITLE

Page 4, please replace the section title at line 4 as follows:

[DISCLOSURE] SUMMARY OF THE INVENTION

Page 4, please replace the paragraph at lines 5-9 as follows:

As a result of eager investigation of the present inventors to solve the above-mentioned problem, the present inventors have found that it is important to regulate a ratio of an empty space to an inner volume of the first hollow body [2] to achieve the present invention.

Page 4, please replace the paragraph at lines 10-19 as follows:

The present invention relates to a gas generator for actuating a vehicle occupant restraint device comprising a first hollow body [2] with a bottom and sides, gas generants [6] densely filled in the first hollow-body [2], an electric ignitor [4] formed by housing igniting agents [4b] in a second hollow body [4a] with a bottom and sides then closing the second hollow body [4a] with a plug [4c], and a holder [1] positioning the second hollow body [4a]

in the center of the first hollow body [2] while fixing the first hollow body [2] and holding the plug [4c] of the electric ignitor [4].

Page 4, please replace the paragraph beginning at line 20 to page 5, line 5, as follows:

In a first gas generator of the present invention, a ratio of an empty space to a volume of a space partitioned by an inner surface of the first hollow body [2], an outer surface of the second hollow body [4a] and the holder [1] (hereinafter it is described as full volume) is less than 20 % by volume. The empty space and the ratio of the empty space by volume are calculated by using

empty space = full volume - filling volume • • • (1)

ratio of an empty space by volume

= (empty space volume / full volume) X 100 • • • (2)

Page 5, please replace the paragraph at lines 11-17 as follows:

According to the first gas generator of the present invention, because the ratio of the empty space to the full volume of the first hollow body [2] is less than 20 %, the first hollow body [2] is substantially full of the gas generants. Therefore, ignition energy of the electric ignitor [4] is transmitted efficiently and the time for raising for inner pressure of the first hollow body is shortened.

Page 5, please replace the paragraph beginning at line 18 to page 6, line 2, as follows:

Accordingly, in the case an electrical ignitor with small ignition power is used, there is no possibility that an ignition delay occurs. In addition, because the first hollow body [2] is substantially full of the gas generants, the gas generants are prevented from being powdered by vibration of vehicles. To ensure the above-mentioned action, it is preferable that the ratio of empty space is less than 15 %, further preferably, less than 10%.

Page 6, please replace the paragraph at lines 5-11 as follows:

A second gas generator of the present invention is characterized in that the gas generants [6] are powdery or granulated and filled in a compressed state, in addition to the above-mentioned characteristics of the first gas generator. As examples of compressible gas generants, there are powdery or granulated non-azide gas generants, propellant gas generants and the like.

Page 7, please replace the paragraph at lines 8-13 as follows:

A third gas generator of the present invention is characterized in that a part of the full volume is filled with a spacer [7] inserted between outer surfaces of the sides of the second hollow body [4a] and inner surfaces of the sides of the first hollow body [2], in addition to the above-mentioned characteristics of the first or the second gas generator.

Page 7, please replace the paragraph at lines 14-23 as follows:

According to the third gas generator of the present invention, an empty space between the outer surfaces of the sides of the second hollow body [4a] and the inner surfaces of the sides of the first hollow body [2] can be filled with the spacer [7]. Therefore, even if a form of the gas generator cannot be modified for reason of a design of a vehicle occupant restraint device, it is possible to lower the ratio of the empty space. As a result, the first hollow body [2] is substantially full of the gas generants [6], thereby an excellent ignitability is obtained.

Page 8, please replace the paragraph beginning at line 21 to page 9, line 3, as follows:

A [forth] fourth gas generator of the present invention is characterized in that the gas generants [6] are compressed in advance and filled in the first hollow body [2] so that a concavity, in which the second hollow body [4a] is inserted, is formed, in addition to the above-mentioned characteristics of the first or the second gas generator.

Page 9, please replace the paragraph at lines 4-15 as follows:

According to the [forth] fourth gas generator of the present invention, the gas generants are compressed in the first hollow body [2] in advance so that the concavity, in which the second hollow body [4] is inserted, is formed. Therefore, when the second hollow body [4a] is inserted into the first hollow body [2], the second hollow body [4a] is surrounded by the gas generants. The ignition energy of the electric ignitor is transmitted to the gas generants surrounding the second hollow body [4a] without waste. Therefore, there is no possibility that an ignition delay occurs. For compressing the gas generants [6] into a concave shape in the first hollow body [2], convex compressing tools may be used.

Page 9, please replace the paragraph at lines 16-22 as follows:

A fifth generator of the present invention is characterized in that gas generants [6] incompressible or hard to compress are filled densely and a part of the full volume is filled with the spacer [7] inserted between the outer surfaces of the sides of the second hollow body [4a] and the inner surfaces of the sides of the first hollow body [2], in addition to the above-mentioned characteristics of the first gas generator.

Page 12, please replace the paragraph at lines 7-15 as follows:

The spacer 7 is, for example, in a cylindrical shape, where a diameter of the inner circumference thereof is substantially the same with the one of the outer circumference of the second hollow body 4a and a diameter of the outer circumference thereof is substantially the same with the axle of the inner circumferences of the first hollow body 2. The spacer 7 is inserted between the outer surfaces of the sides of the second hollow body 4a and the inner surfaces of the sides of the first hollow body 2.

IN THE CLAIMS

--Claims 6-12 (New).--

IN THE ABSTRACT

--(New).--

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